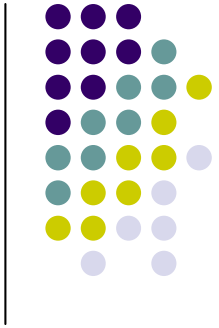
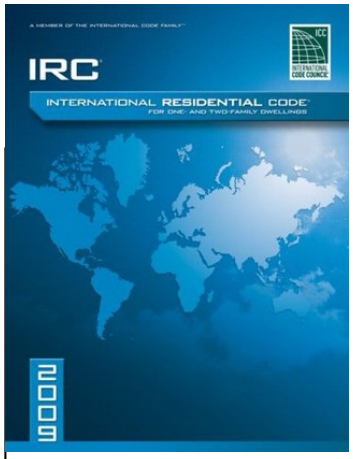
Agenda



- Welcome and Opening Remarks
  - Hadi Mansouri, Division Chief
- Significant Local Changes to IRC 2009
  - George Muste and Steve Thomas, Managers
  - Q & A
- IECC 2009 Code Provisions and Inspection Process
  - Mark Nauman, Plan Reviewer
  - Q & A
- Residential Zoning - Additions and New Construction
  - Susan Scala-Demby, Manager
  - Q & A

Significant Local Changes to IRC 2009

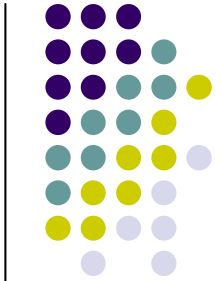


Montgomery County, MD

George Muste

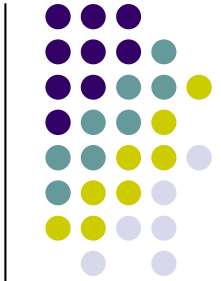
@

Legislative Framework



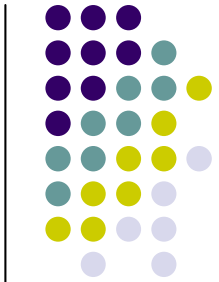
- *Executive Regulation (ER) 26-09 AM* adopts 2009 editions of
  - International Building Code (IBC)
  - International Energy Conservation Code (IECC)
  - International Residential Code (IRC)
  - International Fuel Gas Code (IFGC)
  - International Mechanical Code (IMC), and the
  - International Residential Code (IRC) with amendments
  - Supersedes ER 28-07
  - It governs construction of buildings and structures in Montgomery County

About IRC



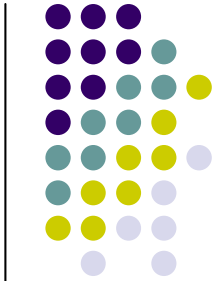
- Mixture of prescriptive construction and engineered elements allowed
- Format: unlike IBC, divided based on building elements: foundations, floors, etc.
- Each chapter contains requirements for all code-recognized materials

About IRC



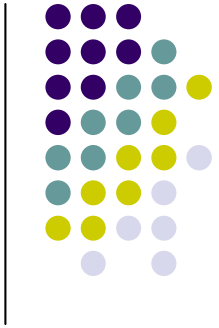
- Applies to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures
- IRC amended by ER Sections 110-152 (S)
- Code changes 06 to 09 (A, M)

New Buildings



Code	Permit Type	Standard	Date
Building	Building	IRC 2009	5-18-2010
Mechanical	Mechanical	IRC 2009	5-18-2010
Energy Conservation Code	Building	IRC 2009	5-18-2010
Electrical	Electrical	NEC, 2008	3-17-2010
Fire protection	Fire protection	NFPA 13, 13 D	1-14-2004

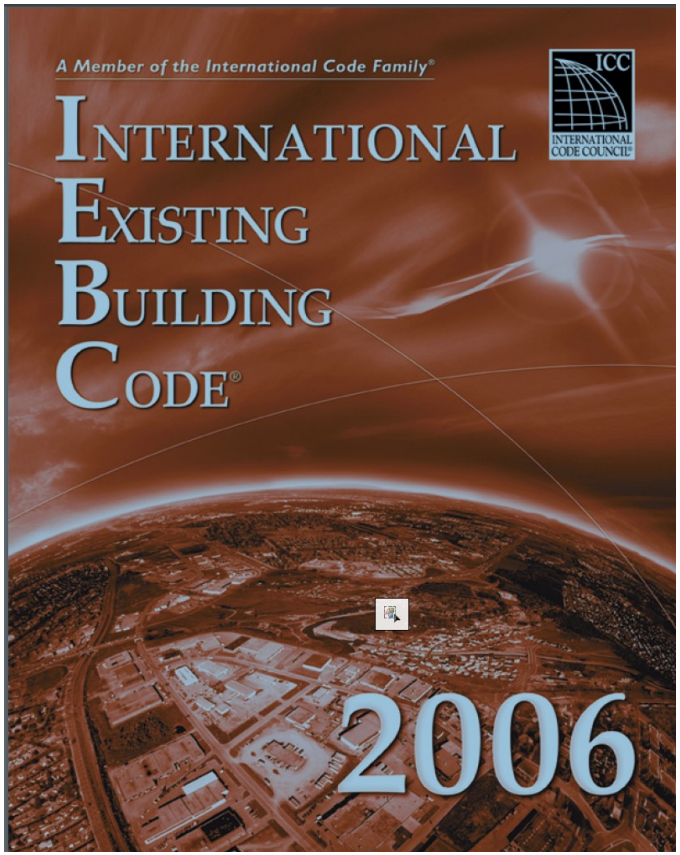
Existing Buildings R101.2 111



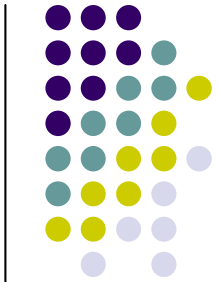
- Existing buildings undergoing repair, alterations or additions and change of occupancy shall be permitted to comply with the Maryland Building Rehabilitation Code (MBRC)
- Existing Building
  - A building or structure that was erected and occupied or issued a certificate of occupancy at least 1 year before a construction permit application for that building or structure is made

Maryland Building Rehabilitation Code (MBRC)

- 1st edition, effective June 1, 2001
- Updated by adopting the 2006 International Existing Building Code (IEBC) with state amendments effective July 16, 2007 - COMAR 05.16.01

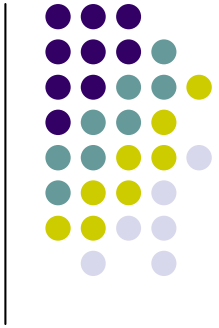


MBRC Philosophy



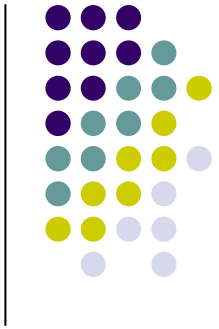
- Rehab work must not lessen the safety of existing building
- Encourage use and re-use of existing buildings while requiring reasonable upgrades and improvements
  - Concept used in the application of provisions or judgment
- Upgrades are triggered by the type and extent of work, not $ of the work

Information for Permit Application



- Applicant MUST indicate on the application for permit and construction documents the CODE under which DPS will review application
  - IRC only
  - IRC and MBRC for those elements that are not in compliance with IRC
  - MBRC only

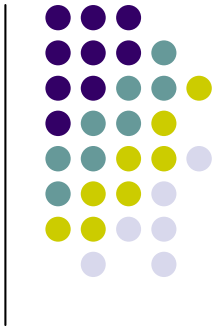
Inspections
R109 116



- 555 – Sign
- 001 – Footings
- 002 – Foundation/parging or back-fill
- 003 – Wall Check – (house location survey)
- 042 - Wall Bracing
- 004, 041 – Framing
- 043 - Insulation
- 006 – Masonry fireplace/flue
- 011 – Concrete slab-on-ground floor
- 251 - Final (Well/Septic, WSSC, DFRS)

- No use and occupancy w/o approved final

Inspections
R109 116



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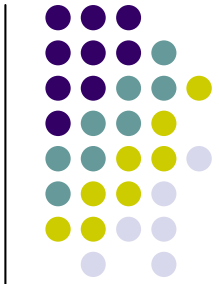
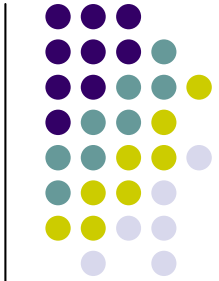
Information on Construction Documents



- Wall Bracing, R106.1.1
  - DPS Plan Submittal Guidelines
    - Braced wall lines
    - Bracing methods
    - Braces wall panels
    - Length of braced wall panels, bracing
- Plans approved in writing, R106.3.1
  - Red stamps

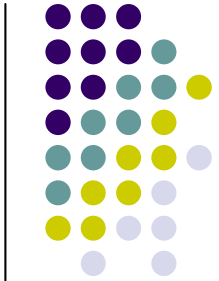
IRC 2009



Chapter 2

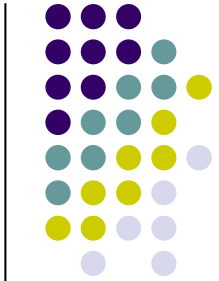
Definitions

Definitions
R202 A



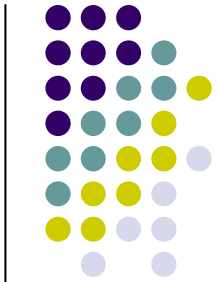
- New
  - Adhered stone or masonry veneer
  - Anchored stone or masonry veneer
  - Habitable attic
  - Flight
  - Nosing
  - Stair
  - Stairway
  - Related to Structural Insulated Panels (SIPs)

Definitions
R202 119



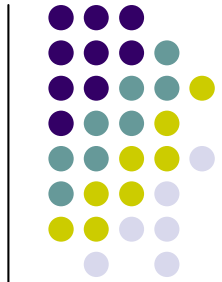
- ***Dwelling unit*** - can contain a family day care, group day care home, home occupancy or home health care practitioner – Chapters 8 and 59 of Montgomery County Code
- ***Attic, Habitable*** - A finished area, considered a story, complying with all of the following requirements:
  - 1. The occupiable floor area is at least 70 square feet (6.5 m^2), in accordance with Section R304,
  - 2. The occupiable floor area has a ceiling height in accordance with Section R305, and
  - 3. The occupiable space is enclosed by the roof assembly above, knee walls (if applicable) on the sides and the floor-ceiling assembly below.

Definitions
R202 119



- Storage, finished:
  - A finished area having no more than two (2) 120V outlets and no other wiring methods (CATV, satellite, data communication, etc.), excluding lighting requirements.

IRC 2009



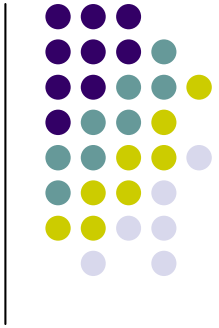
Chapter 3

Building Planning


9.22.2003

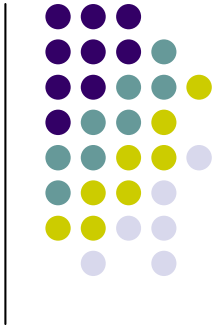

9.22.2003

Design Criteria
R 301 120



Residential Construction Design Parameters (continued)						
Ground Snow Load	Wind Design		Seismic Design Category	Subject To Damage From		
	Speed	Topographic Effects		Weathering	Frost Line Depth	Termite
30 psf (1.4 kN/m²)	90 mph (145 km/hr)	No	B	Severe	24 in (610 mm)	Moderate to heavy

Design Criteria
R 301 120

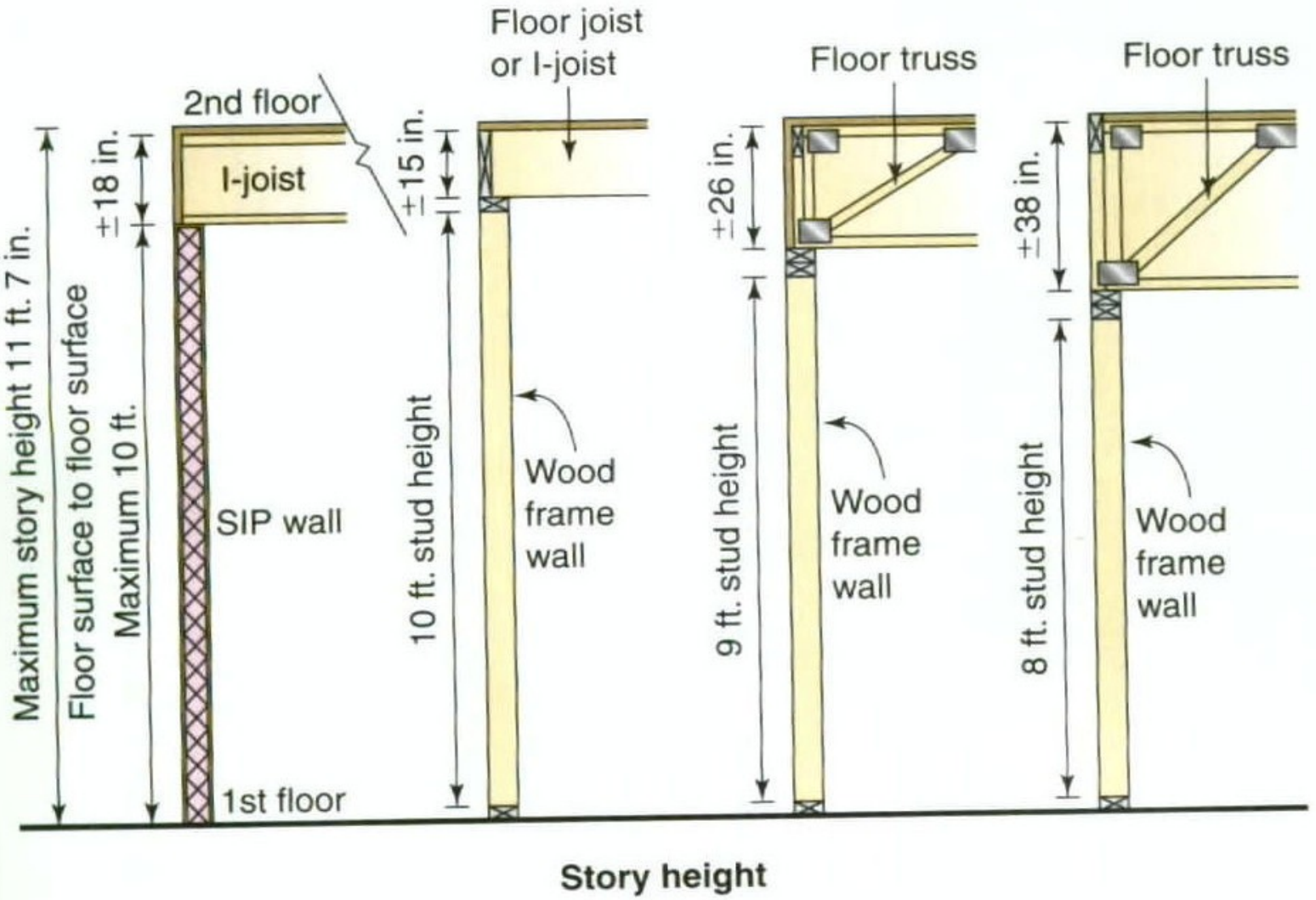


Residential Construction Design Parameters				
Winter Design Temp.	**Ice Barrier Underlayment Required**	**Flood Hazards**	**Air Freezing Index**	**Mean Annual Temp.**
13°F(-10.6°C)	**Yes**	**July 2, 1979**	**300**	**55°F(12.8°C)**

Story Height
R301.3 M

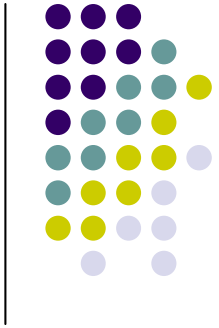
- Wood Framing
  - Floor framing can exceed 16 in. in height
  - Max story height 11 feet and 7 in.
  - Unbraced stud height as per Table R 602.3(5)
- Steel Framing
  - Unbraced stud height 10 feet
  - Max 16 in. floor framing
- Masonry Walls
  - Max bearing wall height 12 feet
  - Max 16 in. floor framing
- ICF
  - Section R611
  - Max bearing wall height 12 feet
  - Max 16 in. floor framing
- SIP
  - Max wall height 10 feet
  - Max 16 in. floor framing

R301.3 continues

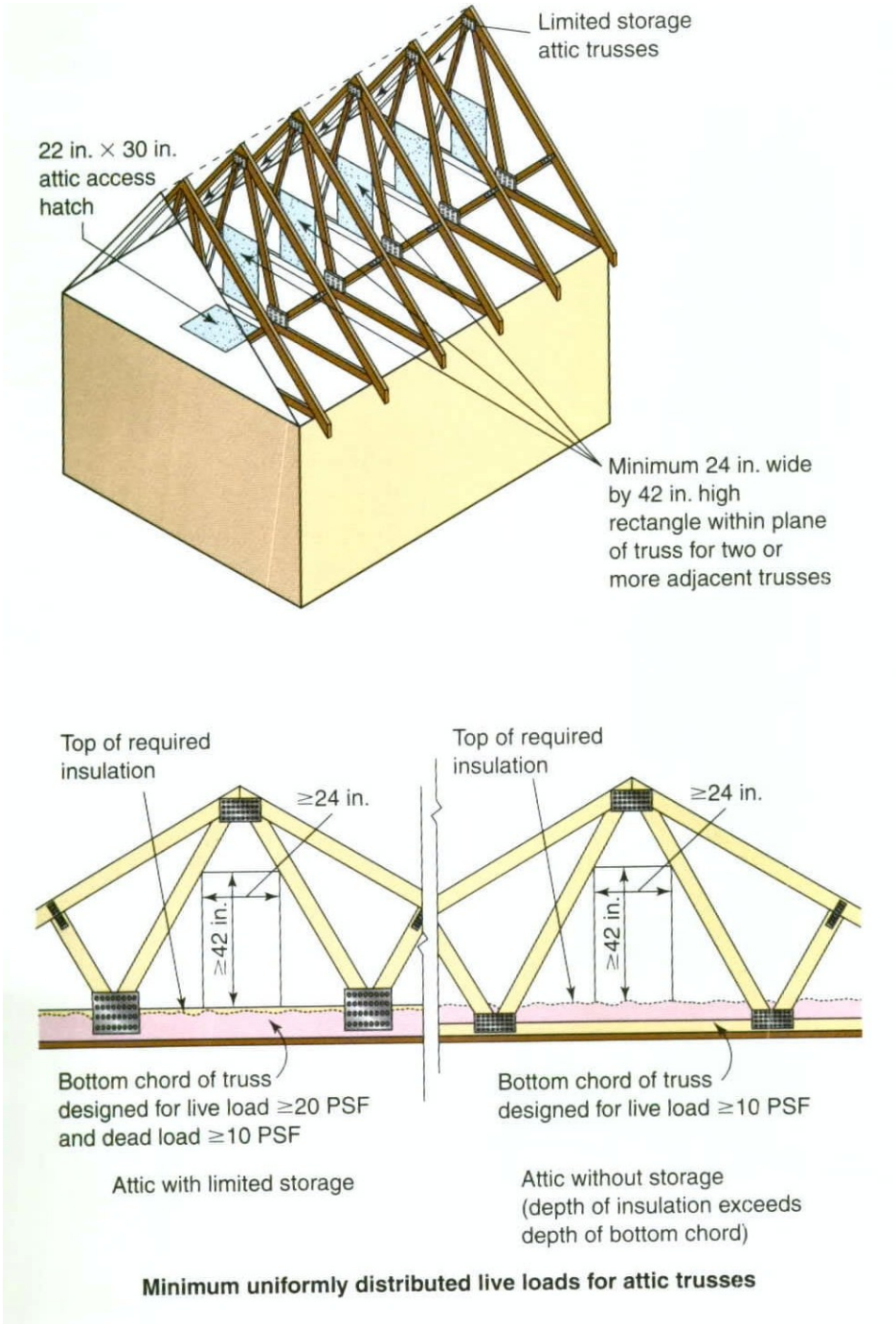


Story height

Minimum Live Loads
R301.5 M



- Attics without storage 10 psf
- Attics with limited storage 20 psf
- Habitable attics and attics with fixed stairs 30 psf
- Decks, exterior balconies 60 >> 40 psf
- Fire Escapes 40 psf
- Guardrails, Handrails 200 psf
- Passenger vehicles garages 40 psf
- Rooms (other than sleeping rooms) 40 psf
- Sleeping rooms 30 psf
- Stairs 40 psf



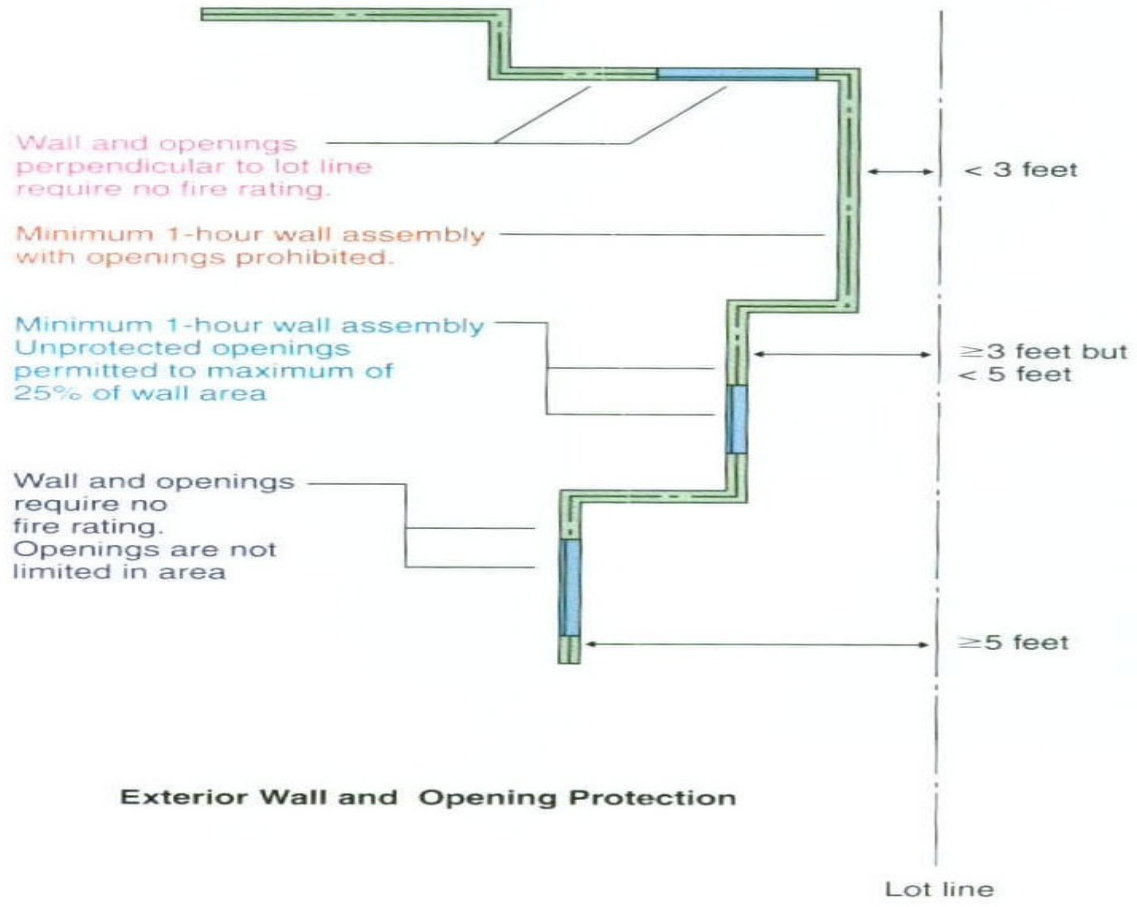
Minimum uniformly distributed live loads for attic trusses

Fire-Resistant Construction at Exterior Walls

R302.1 M

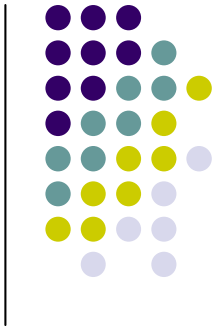
- Consolidates related provisions in one location
- Revised Table R302.1Clarify min separation distances
  - Openings only in walls, not those in soffits or roofs
- Fire resistance walls must meet ASTM E 119 or UL 263
- Separation requirements do not apply to buildings on same lot (exceptions)

Fire-Resistant Construction at Exterior Walls R302.1 M



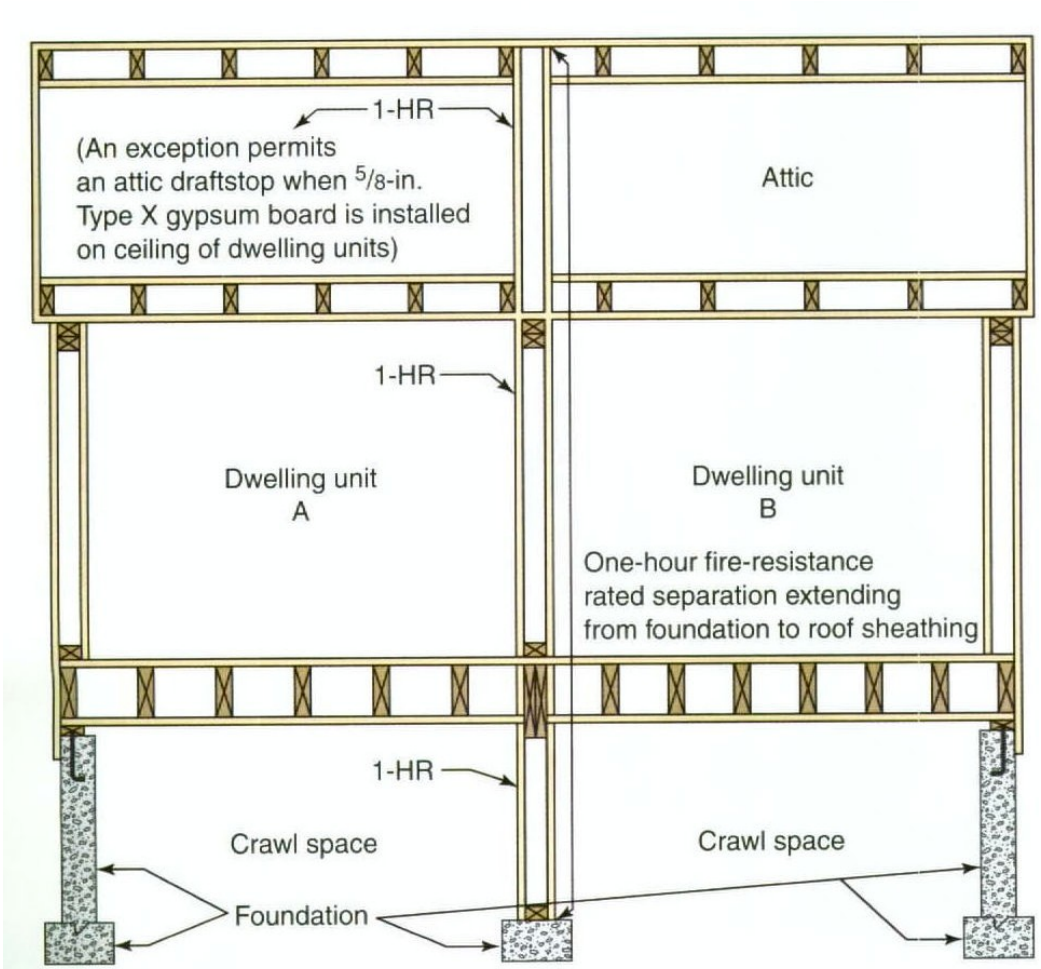
Exterior Wall and Opening Protection

Dwelling Unit Separation R302.2 and R302.3 M



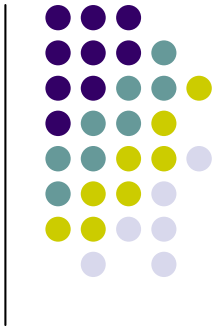
- Each townhouse is considered a separate building (structurally independent)
  - Detached 1-hour rated wall assemblies
  - Common 1-hour rated assembly
    - No plumbing or mechanical equipment
- Common foundations allowed
- Continuity
  - to underside of roof sheathing
  - tight against exterior wall sheathing

Dwelling Unit Separation R302.2 and R302.3 M

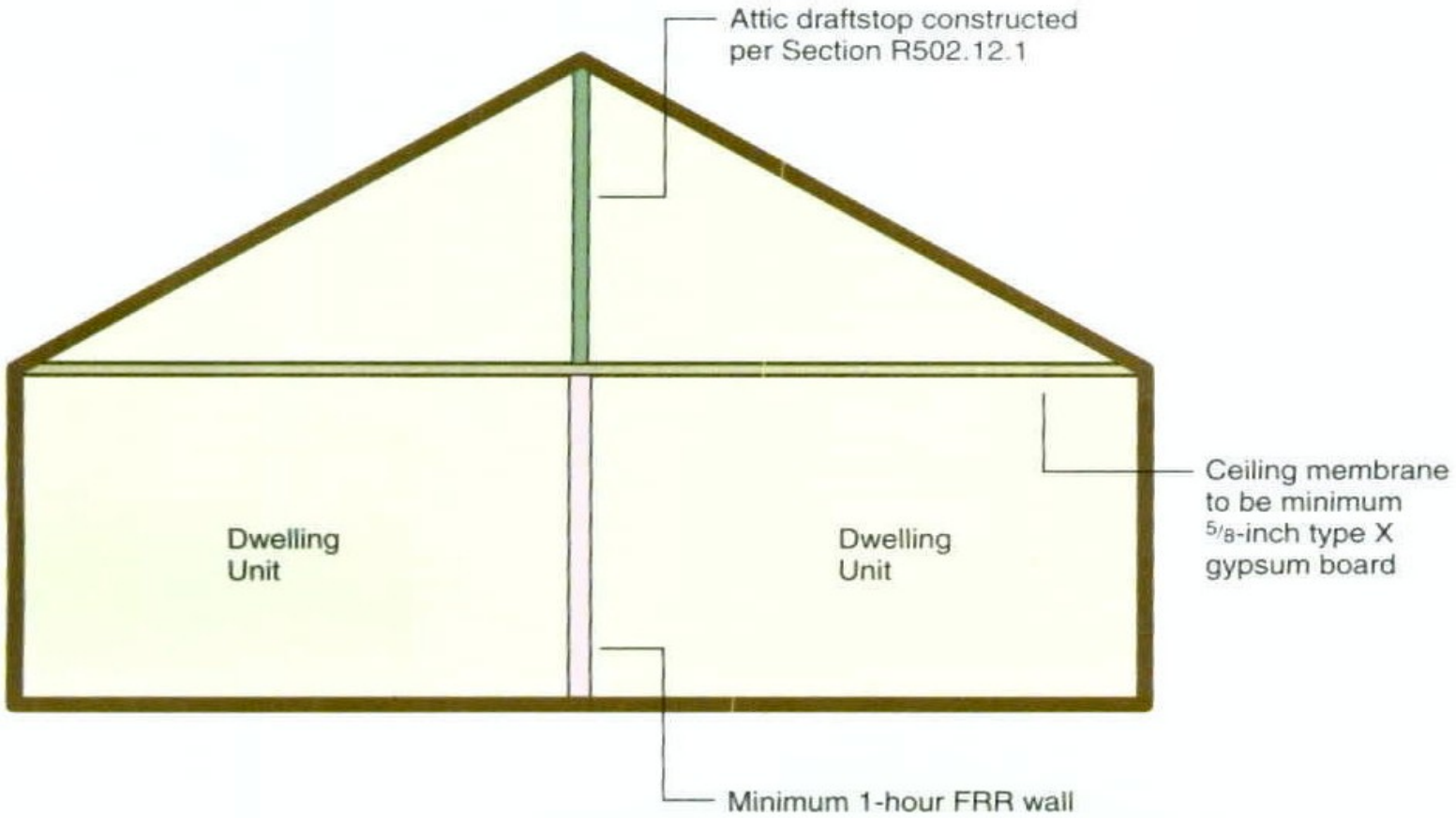


Two-family dwelling separation wall

Dwelling Unit Separation R302.2 and R302.3 M



- Two-family dwellings
  - Separate by 1-hour rated wall assemblies
    - Exception: ½-hour rated if sprinklered
    - Exception: attic draftstopping and 5/8 in. Type X gypsum ceiling
- Fire rated walls must have tight construction
  - tight against exterior wall sheathing
  - to underside of roof sheathing



Fire Separation of Two-Family Dwellings

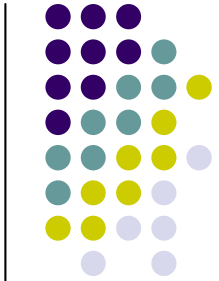
Penetrations for Dwelling Unit Penetrations
R302.4 M

- Editorial changes
- Accepted practices recognized

Toilet, Bath and Shower Spaces
R307.1 122

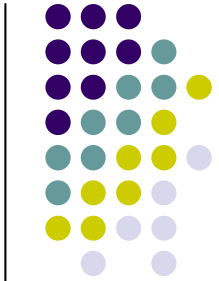
- Removed requirements in accordance with Section P2701.5.

Means of Egress
R311

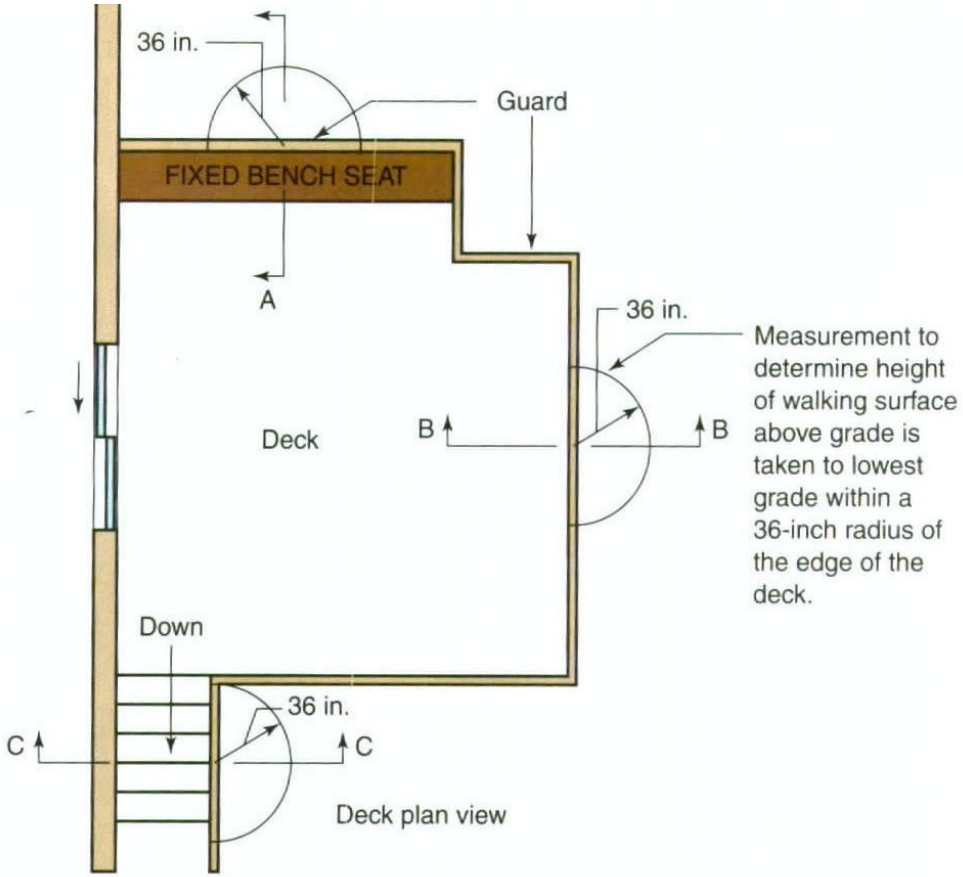


- R 311.1, M - Egress door shall be 6 ft 6 in., min width of 32 in.
- Landings
  - May be less than 36 in. in direction of travel if exterior balconies are less than 60 sq ft
- Stair geometry
  - Maximum riser height 7¾ in.
  - Tread depth 10 in.
  - Measurements before carpet installation

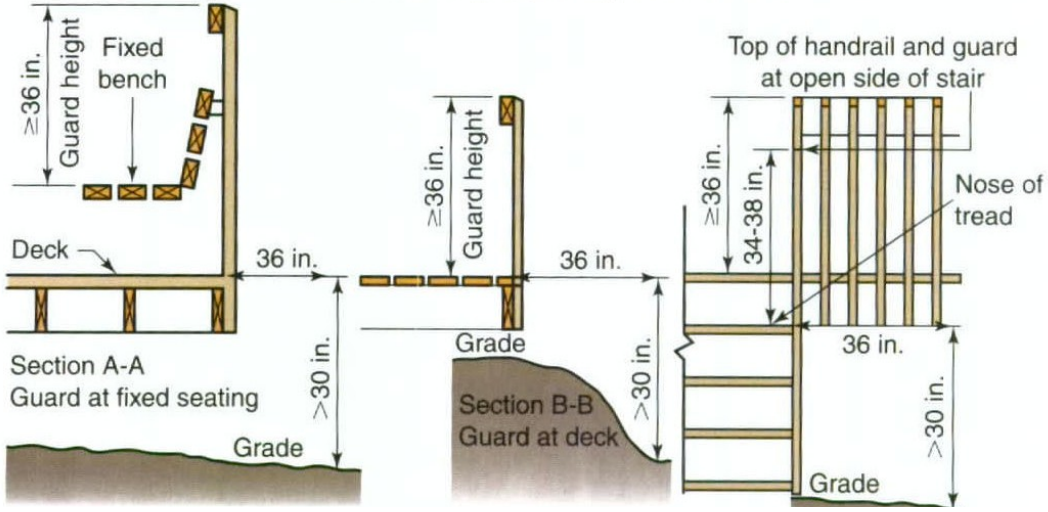
Guards
R312 123



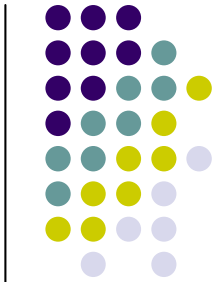
- Section R312.1. After the first occurrence of the phrase “floor or grade below” insert the phrase “and retaining walls with a difference in grade level on either side of the wall exceeding 30 in. (762 mm) and within 2 feet (610 mm) of a walk, path, parking lot, or driveway on the high side ●



Determining required guard locations

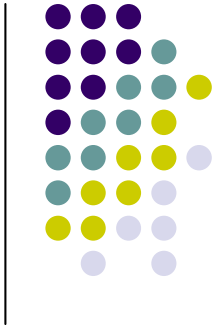


Automatic Fire Sprinkler System R313



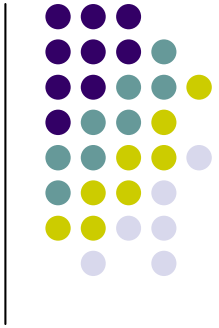
- R 313.1.1, 124 - Replace Section P2904 with NFPA 13D
- R 313.2, 125 - Delete “effective January 1, 2011”
- R313.2.1, 126 - Delete Section P2904 or”

Automatic Fire Sprinkler System R313



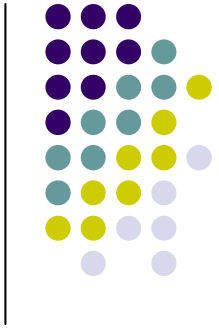
- R313.3, 127 - Rehabilitation work in dwellings equipped with an approved sprinkler system
  - An approved automatic fire sprinkler system shall be maintained in areas undergoing rehabilitation work

Automatic Fire Sprinkler System R313



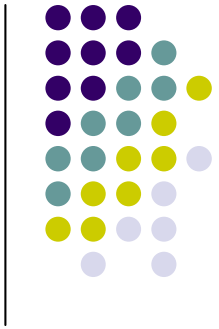
- R313.4, 127 - Automatic sprinkler system for reconstruction
  - An approved automatic fire sprinkler system shall be installed when 50 percent or more of the gross floor area, as defined in section 1002.1 of the IBC, of the existing building is demolished

Gross Floor Area



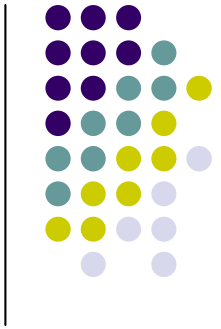
- Floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features
- Floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above
- Gross floor area shall not include shafts with no openings or interior courts

Automatic Fire Sprinkler System R313



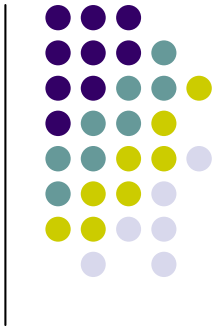
- Additions to one- and two- family dwellings and townhouses equipped with an approved sprinkler system
  - An approved automatic fire sprinkler system must be installed in additions to dwellings equipped with automatic sprinkler systems

Carbon Monoxide Alarms
R315 A



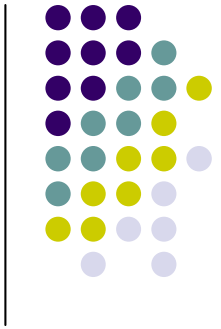
- Required to be installed outside of each sleeping area in new and existing dwellings, if a permit is required, if fuel-fired appliances are installed or the dwelling has an attached garage
- Alarms must comply with UL 2034

Protection of Wood and Wood Based Products Against Decay R317 M



- 2 in. above concrete slab exposed to weather
- Expanded requirements for fasteners and connectors in contact with preservative-treated and fire-retardant-treated wood
- Wood/plastic composites
  - Definition
  - Labeling and listing as complying with ASTM D 7032
  - Installations in accordance with manufacturer's instructions

Elevators and Platform Lifts R 321.1 129



- Safety Standards for design and construction
  - Elevators
    - ASME A17.1
  - Lifts
    - ASME A18.
- Walls and ceiling of elevator shafts shall be covered with not less than 5/8-inch Type X gypsum board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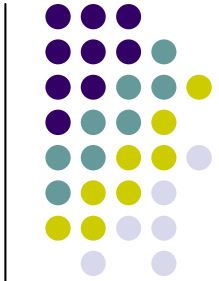

- Chapters 4 to 5 click here